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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,570

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Jurgen Beil

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EXAMINER

CROWE, DAVID R

ART UNIT

PAPER NUMBER

2885

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,570	Applicant(s) BEIL ET AL.	
	Examiner DAVID R. CROWE	Art Unit 2885	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-14,16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6-14,16 and 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment to the claims filed 7/23/2008 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4, 6-14, 16 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ranganathan et al in view of Higuchi et al (US 6,241,358) and Ohtsuki et al (US 6,036,328).

Re claims 1 and 13: Ranganathan et al discloses a display [entire screen displaying images] comprising a polygonal luminous area corresponding the entire screen, wherein the polygonal luminous area comprises: a plurality of individual polygonal luminous modules [Liquid crystal panels] arranged in a modular manner in the polygonal luminous area to correspond to the size of the entire screen; wherein the luminous modules are selected from a basic set of different sized modules; wherein the basic set of modules comprises: a first module [102] having a first size, a second module [105] having a second size, a third module [103] having a length that corresponds to the length of the first module and a width that corresponds to the second module, and a fourth module [104] having a length that corresponds to the width of the first module and a width that corresponds to the length of the second module; and wherein the luminous area [Figure 1E] comprises one of each of the luminous modules

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on the basic set of different sized modules. The method of producing the luminous area as found in claim 1 would have been drawn directly from the disclosure of the apparatus found in Ranganathan et al. [It is understood that the displays are reasonably considered luminous modules as it is commonly known that in use OLED and LCD displays emit light in order to be viewed. The examiner understands that liquid crystal panels alone are often including backlights and do not themselves produce light. However the applicant states in the remarks, "It is possible for a luminous module without a light input part and a light emitting diode to be luminous." In other words the LCD is luminous thanks to a standard backlight.] [The method steps claimed would have been drawn directly from the forming of the apparatus as claimed and as taught by Ranganathan.] [Figures 1d and 1e, paragraph 57]

Ranganathan fails to teach a backlighting apparatus.

Higuchi et al teaches a backlighting apparatus [BL] for use behind a LCD panel display [LP] in figure 1.

Ohtsuki et al teaches backlighting a passive display panel [11] to demonstrate the wide scope of "display" as claimed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that each individual [LCD] of Ranganathan would require backlighting as taught by Higuchi in order to project an image as commonly known in the art of LCD to require outside lighting sources. Therefore the individual backlights behind the individual panels may be interpreted as coming together to form a "backlighting apparatus with a polygonal luminous area" and the individual LCD panels

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of Ranganathan come together to form a "display" as claimed and referred to as the "entire screen" by Ranganathan. As shown from the teachings of Ohtsuki, a display may be a passive board projecting an image. In other words, the "display" as claimed does not require a single contiguous liquid crystal panel.

Re claims 2 and 14: Ranganathan shows that when displays [102-105] are brought together as shown in figure 1d, the polygonal luminous area is rectangular and comprises individual rectangular modules.

Re claims 4, 8, 16 and 20: Ranganathan fails to teach the modules having a light input area with light emitting diodes.

Higuchi et al teaches luminous modules with a light input area [22] for backlight a LCD.

Ohtsuki discloses using LED's [50] to illuminate the light input part [50a] of a luminous body [50] for use with a display. [See column 16 line 21 through column 17 line 29.]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the displays taught by Ranganathan by backlighting the displays [102-105] with the modules of Higuchi wherein the light sources are replaced by LEDs as taught by Ohtsuki. Although Ranganathan shows the four display combination in figure 1e including an OLED display, based on using only LCD displays in the combination of figure 1d, it would have been obvious to create the arrangement of figure 1e using all LCD displays based on cost, size, power consumption and quality as suggested in Ranganathan et al in paragraph 71. The use of Higuchi et al backlight

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modules to illuminate the displays of Ranganathan is motivated by Higuchi's suggested advantage of improved lighting for large displays instead of a single light source for all the displays of Ranganathan, each display would be lit by at least one module of Higuchi using LEDs for improved light quality of smaller light modules and the lower cost/longer life of LEDs.

Re claims 6 and 18: Ranganathan et al fails to teach the diagonal length of the first and second modules being an integer multiple of 1 inch or the ratio of length to width of the modules being 4:3. The length ratio however is only provided as a preferred configuration and therefore is not a positive limitation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to design the displays of Ranganathan with integer diagonal lengths because it is common in the art of displays, especially large displays used for television to market the screen size by an integer number of inches from corner to corner. This way the displays of Ranganathan could be used or sold individually using easy to understand length values. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum range for sizes involves only routine skill in the art. In re Aller, 105 USPQ 233.

Re claims 7 and 19: Although Ranganathan fails to teach the first module having a diagonal of 5 inches and the second module having a diagonal of 7 inches; it would have been obvious to one of ordinary skill in the art to select these integer diagonal lengths based on the resulting integer side lengths of the corresponding rectangle. The 3:4:5 triangle is commonly learned by high school geometry students and used as a

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common example for providing easy to deal with values. It has been held that discovering an optimum value of a result effective variable, Ranganathan teaches size as a factor is selecting displays [paragraph 71], involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ (CCPA 1980).

Re claims 9 and 21: Ranganathan fails to teach an input area, output area or reflective coating.

Higuchi teaches a backlight module for illuminating liquid crystal displays like those of Ranganathan, wherein each backlight module includes a light input area [22], a light output area [25], and a reflector [23] on the area that is not the input or the output.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the displays of Ranganathan et al by using the specific backlighting apparatus of Higuchi in order to provide even lighting over the surface of the displays by using at least one module of each display while the backlight units are designed to be brought together as the displays of Ranganathan are brought together.

Re claims 10 and 22: As applied to the modified Ranganathan in claim 16, Higuchi further teaches light guides with tapered cross sections.

Re claims 11 and 23: As applied to the modified Ranganathan in claim 20, Higuchi discloses wherein the thickness of the luminous body [BL] next to the light input area [22b] is greater than the thickness of the light input part [22], with a step [22a] being formed such that the luminous modules overlap when put together to form a luminous area such that the light input part is covered by the adjacent luminous module. [See figures 3 and 4].

Re claims 12 and 24: As applied to the modified Ranganathan applied to claim 20, Higuchi further teaches a reflective structure [23] to direct light into the region of a step.

Response to Arguments

3. Applicant's arguments filed 7/23/2008 have been fully considered but they are not persuasive. The applicant suggests independent claims have been amended to incorporate the subject matter of claims 25 and 26. The examiner does not fully agree that this amendment adds positive limitations to the claims at all. The method claims have not added any method steps, the new features appear only in the preamble which is not given patentable weight when the body of the claim illustrates a full invention. The apparatus claims now do suggest a display, but do not define the display in any way. A display of patterned lights my reasonable read on the claim. In furtherance of compact prosecution, the examiner had maintained the grounds of rejection of prior claims 25 and 26 as discussed above.

With respect to claims 1 and 13, the applicant attempts to distinguish Ranganathan from the claimed invention because Ranganathan teaches a "single sub screen is back light by a single display panel." Even though each LCD of Ranganathan is interpreted to have its own backlight assembly, this situation is not distinguished by the claims. The claim does not require a single liquid crystal panel but only suggests a "display" which could be read as the window in the housing of the portable apparatus of Ranganathan.

With respect to claims 6, 7, 18 and 19, the applicant has disagreed with the examiner's position that the selection of the length to width ratios of each module would have been obvious to one of ordinary skill in the art. The applicant however provides no indication as to why the simple defining of sizes would not be obvious, is critical to their invention or in any way provides unexpected results.

The remainder of the claims are argued to be patentable based on Higuchi and Ohtsuki failing to teach the selection of modules of a basic set of four sizes. The examiner maintains that Ranganathan shows a set of 4 sized modules as claimed and the additional limitations taught by Higuchi and Ohtsuki which have been used to modify Ranganathan are proper.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID R. CROWE whose telephone number is (571)272-9088. The examiner can normally be reached on 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DRC
10/14/08

/Jong-Suk (James) Lee/
Supervisory Patent Examiner, Art Unit 2885